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OCCURRENCE OF FILAMENTOUS MICROFUNGI FROM WINDMILL ISLANDS, WILKES LAND, ANTARCTICA AND EFFECTS OF PH, TEMPERATURE AND SALINITY ON GROWTH OF SELECTED ANTARCTIC SOIL FUNGI

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During mycological survey, summer of 2001/2002, 2002/2003 and 2004 at Casey Station, Peterson Island, Thala Valley and Whitney Point of the Antarctic continent, data on frequency of occurrence of fungi are recorded and presented in this paper. Soil samples were collected from 1-2cm depth and kept in a sterile plastic container at low temperature. Soil plated method was used in this study and the plates were incubated at 4ºC. Potato Dextrose Agar (PDA) and Yeast Agar Extract containing 0.05g of chloramphenicol media were used and the plates were examined daily. In total, 220 of soil samples were collected and these comprised of 245 strains of fungi representing 10 species of soil microfungi. These include *Antarctomyces* sp., *Aureobasidium*-like sp., *Cadophora malorum*, *Geomyces c.f. cretaceous*, *Mucor* sp., *Thelebolus* sp., *Trichosporiella* c.f. *cerebriformis*, 1 unidentified Ascomycete sp. and 2 unidentified species were recorded from all collection sites. Ultrastructure were carried out and occurrence of the microfungi were compared with other part of the Antarctics to discuss their mycogeographic distribution. The results will be presented in this paper. Study on effects of nutrient, pH, temperature and salt concentration on fungal growth were carried out on selected Antarctic soil fungi. *Phoma* sp., *Aureobasidium* sp., *Thelebolus* sp. and *Antarctomyces* sp. were cultured and growth rates were compared on two media, Potato Dextrose Agar (PDA) and Corn Meal Agar (CMA) with and without sea water (SW) with different pH and temperature. The plates were incubated at 4 and 25 degree Celcius and measurements of the colony diameter were recorded after 18, 24, 42, 66, 90, 114, 138, 162, 186 and 210 hours. The results showed that only *Phoma* sp. is catogorised as mesophilic fungi, while other fungi are belong to psychrophilic organisms. Results on effect of pH, temperature and salinity on fungal growth will be presented in this paper.